California Energy Commission
Public Interest Energy Research
Staff Workshop

Research Breakthroughs: What's needed to Accelerate Path to Market and Achieve California's 2020 Renewable Energy Goals

February 29, 2012 – 9:00 AM to 5:00 PM

AGENDA

9:00 Welcome

Rizaldo Aldas, Program Lead, Renewables and Advanced Generation Research

9:05 Opening Comments

Drew Bohan, Chief Deputy Director, California Energy Commission

9:15 Introduction

Linda Spiegel, Office Manager, Energy Generation Research Office

Technical Sessions

General Discussion Topics:

- How can renewable energy research facilitate meeting RPS goals? Clean Energy Jobs Plan?
- What are R&D efforts that can help simplify interconnection for renewable energy projects?
- What renewable energy R&D activities are of greatest interest to utilities and the energy industry?
- What significant barriers, knowledge gaps, or policy recommendations were identified during recent research?

9:30 to 10:40 Session 1 – Biomass and Bioenergy Research

Staff overview on Bioenergy Research (5 min) – Prab Sethi

Panel presentations (10 min each)

- Biomass Barriers and Opportunities – Steven Kaffka (UC Davis)
- Onsite Waste to Energy Generation – Steve Gill (Gill's Onions)
- Dairy Digester Environmental and Economic Analysis – Matt Summers (Summers Consulting)
- Green Bio-Energy for Food Processing – Russ Lester (Dixon Ridge Farms)

Bioenergy Panel Discussion (25 min):

- How can R&D help commercialize biomass to energy systems?
- How can research help the industry meet environmental regulations for anaerobic digesters?
- What are R&D efforts that can help simplify interconnection for biomass energy projects?

10:40 to 11:50 Session 2 – Solar Energy Research

Staff overview on Solar Energy Research (5 min) – Hassan Mohammed

Panel presentations (10 min each)

- Emerging Technologies' Business Models for Solar – Scott Shoults (GreenVolts)
- Distributed solar electricity smoothing to the grid – Tom Hoff (Clean Power Research)
- Solar Energy and Forecasting Research – Jan Kleissl (UC San Diego)
- Solar Energy Storage and Life Cycle Assessment – Adam Moule (UC Davis)

Solar Panel Discussion (25 min)

- What further R&D work is needed to help make solar more cost effective and self-sufficient?
- What R&D efforts are needed to help reduce water use and land footprint of utility scale solar installations or shift development to previously disturbed lands?
- Is there any critical R&D work still needed to accelerate deployment for solar thermal technologies?

11:50 to 12:10 Public Input

12:10 to 1:30 Lunch Break

1:30 to 2:30 Session 3 – Wind Energy Research

Staff Overview on Wind Energy Research (5 min) – John Hingtgen

Panel Presentations (10 min each)

- Wind Integration Studies – C.P. van Dam / Phillip de Mello (UC Davis)
- Metric-based Evaluation of Storage at Wind Interconnection Points – Robert Schainker (Electric Power Research Institute)
- Environmental Impacts of Wind Turbines – John Mathias (California Energy Commission)

Wind Panel Discussion (25 min)

- What new R&D can help to address integration challenges as wind capacity increases?
- How are storage needs different for wind and solar generation, and what research is needed to address these differences?
- What R&D can provide a significant contribution toward expanding California's wind energy production?
- What will prove to be the most significant environmental impacts of wind generation over time in California?

2:30 to 3:30 Session 4 – Geothermal Energy Research

Staff Overview on Geothermal Energy Research (5 min) – Cheryl Closson

Panel Presentations (10 min each)

- Assessing the Impact of Geothermal Heat Pump Deployment – William Glassley (UC Davis)
- Non-contact Drilling Technology for Geothermal Wells – Olivier Brzozowski (Potter Drilling)
- Surface Deformation from Satellite Data and Applications to Geothermal Assessment, Exploration and Mitigation in Imperial Valley – Mariana Eneva (Imageair)

Geothermal Panel Discussion (25 min)

- What is the greatest research need for Geothermal Energy?
- What public interest R&D can be conducted to support the geothermal industry?
- How can geothermal be integrated with and provide support to other renewables?

3:30 to 4:30 Session 5 – Renewable Energy Integration Research

Staff Overview on Renewable Energy Integration Research (5 min) – Michael Sokol

Panel Presentations (10 min each)

- Integrated Approach to Renewable Energy Deployment in California – Gerry Braun (UC Davis)
- Demonstrating an Integrated Renewable Energy System – Tim Brown (UC Irvine)
- Planning for county-wide renewable energy development in San Luis Obispo – Samuel Golding (Local Power, Inc.)

Renewable Energy Integration Panel Discussion (25 min)

- What are significant R&D needs for integrating energy storage with renewables?
- What is the most valuable role for public interest funding in renewables integration research?
- What is the most practical venue for zero-net energy demonstrations (neighborhood, cities, or counties)?
- What are R&D efforts that can help simplify interconnection for integrated renewable energy projects?

4:30 to 5:00 Public Input

5:00 Adjourn